13 COUNTERFEIT DOCUMENT EXAMINATIONS

13.1 Objective

To determine whether a particular document (e.g. birth certificate, car title) is a counterfeit reproduction.

13.2 References

- Ellen, David; The Scientific Examination of Documents (Second Edition); Taylor & Francis Ltd., 1997
- International Paper Company; Pocket Pal (graphic arts production handbook)
- New Zealand Police Document Examination Section; Printing Processes Manual
- Brunelle, Richard L. & Reed, Robert W.; Forensic Examination of Ink and Paper; Charles C. Thomas Publisher, 1984
- Richards, G.B., "The Application of Electronic Video Techniques to Infrared and Ultraviolet Examinations", JFS, Vol. 22, No. 1, 1977

13.3 Equipment

- Stereo microscope
- Magnifier
- U.V. light source
- VSC-2000 Video Spectral Comparator
- DOYA IR Video Analyzer
- Magnetic ink detector

13.4 Safety Measures

Precautionary measures specified in Section 1.3 when working with a UV light source.

13.5 Procedures

13.5.1 In all cases of suspected counterfeiting, authentic specimens (standards) of the same type of document should be available for comparison purposes. If a known standard is not available, a reliable reference source with detailed information may be used. All aspects of the documents should be examined and compared until such point that it can be determined with certainty (if possible) that the document in question is either genuine or a counterfeit reproduction. In arriving at this determination, differences generally take on a greater significance than do similarities. The nature of counterfeit examinations will vary, and as a result the procedures appropriate to a given case will vary. What follows is a list of techniques commonly applied to this category of examination. They may not address all aspects of any uncommon or unusual circumstances that might be encountered during examinations, and some may not be possible or necessary in every case.

13.5.2 Determine whether both documents (questioned and known standard) were produced by the same process (e.g. lithography, gravure, inkjet, handwritten). The entirety of the documents should be checked since more than one process may have been used. Evaluate the significance of any similarities or dissimilarities.

13.5.3 Compare the physical characteristics (e.g. dimensions, opacity, color) of the documents. Evaluate the significance of any similarities or dissimilarities.

13.5.4 Compare any security features within the documents (e.g. micro-line printing, wet or dry seals, fibers, rainbow printing, holograms, latent images, watermarks, planchettes). Evaluate the significance of any similarities or dissimilarities.

13.5.5 Compare the quality of printing on the documents. Use a microscope and pay particular attention to areas of fine detail. Evaluate the significance of any similarities or dissimilarities.

13.5.6 Check the magnetic properties of the inks on both documents. Evaluate the significance of any similarities or dissimilarities.

13.5.7 Examine both documents with UV long and short wave radiation. Compare the results and evaluate the significance of any similarities or dissimilarities. Security features not previously detected might be visible under UV light.

13.5.8 Examine both documents with the VSC-2000. Evaluate the significance of results in the IR absorbance, reflectance, and luminescent properties; as well as those detected utilizing the UV light source. This step may reveal additional security features not previously observable. If the VSC is equipped with the 'coaxial light' feature it should be used in an effort to locate any retro-reflective security features. (**Note**: The DOYA IR Video Analyzer may also be used, especially in cases where the size or shape of the documents is such that the open architecture of the DOYA is necessary. Although there will undoubtedly be situations where either instrument will provide adequate results, the VSC-2000 has a broader range of capabilities, and for this reason should be the initial instrument of choice. Questioned documents whose authenticity cannot be established or refuted through the use of the DOYA (or by other means) shall be examined on the VSC-2000 (if possible) before reporting any conclusions on the CoA.)

13.5.9 Consider the significance of observations in 13.5.2 through 13.5.8, both individually and in combination, and form a conclusion.

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